

REMARKS

This communication is in response to the Office Action mailed on August 29, 2005, and follows an interview with Examiner Starks, Steve Koehler and the undersigned. Mr. Koehler and the undersigned respectfully thank Examiner Starks for his time and consideration in conducting the interview. The Office Action reports that claims 1-51 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Office Action reports that none of the claims are limited to practical applications in the technological arts.

As discussed in the interview, a servo controller was deemed to constitute statutory subject matter under 35 U.S.C. §101. As discussed below, Applicants recite an actuator, which is believed statutory based on the interview and determination that a servo controller constituted statutory subject matter. Independent claims 1, 24 and 47 have been amended. These amendments have solely been made to overcome the 35 U.S.C. §101 rejection and not for prior art reasons.

In particular, claim 1 has been amended to recite a computer implemented method of controlling a physical system having at least one actuator that is operable based on a drive to produce a selected output. The method includes defining a virtual identity system which includes the physical system and a form of a model of the physical system stored in a computer. A drive is initiated by the computer and provided to operate the at least one actuator. An actual output is received from the physical system indicative of a measured physical parameter. The method further includes checking a quality of identity of the virtual identify system using at least a function of the actual output and the form of the model stored on the computer. The physical system is controlled using the computer as a function of checking the quality of identity of the virtual identity system.

Similarly, independent claim 24 has been amended to recite a computer readable medium including instructions readable by a computer, which when implemented, cause the computer to control a physical system having at least one actuator that is operable based on a drive to produce a selected output. The instructions perform steps including defining a virtual identity system and a form of a model of the physical system. A drive is initiated by the computer to operate the at least one actuator and an actual output is received from the physical system indicative of a measured physical parameter. In addition, a quality of the virtual identity system is checked using at least a function of the actual output and the form of the model. Furthermore, the instructions further comprise controlling the physical system using the computer as a function of checking the quality of identity of the virtual identity system.

Furthermore, independent claim 47 has been amended to recite a system controller for controlling the physical system having at least one actuator operable based on a drive to produce a selected output. The system controller includes means for defining a virtual identity system which includes the physical system and means for defining a form of a model stored on a computer. The system controller also includes means for providing a drive to operate the at least one actuator and means for receiving an actual output indicative of a measured physical parameter. Furthermore, the system controller includes means for checking quality of identity of the virtual identity system using at least a function of the actual output and a form of the model stored on the computer.

Due to the amendments above, Applicants respectfully believe claims 1-51 are directed to patentable subject matter.

Withdrawal of the rejections under 35 U.S.C. §101 is respectfully requested.

Claims 1-51 were also rejected under 35 U.S.C. § 112, first paragraph. In particular, it was determined that a rejection was required under current case law and the M.P.E.P. given the rejection under 35 U.S.C. § 101. As discussed above, claims 1-51 are believed to recite statutory subject matter and thus meet the requirements of 35 U.S.C. § 112, first paragraph. As a result, withdrawal of this rejection is respectfully requested.

Applicant has further amended claims 2, 25 and 48 to further recite that a drive includes a plurality of drive components and an actual output includes a plurality of response components. Additionally, claims 5 and 28 were amended to remove reference to power spectral density. The dependence of claims 9 and 32 was also amended. These amendments were made to add breadth to coverage of the claims and not for prior art reasons.

In view of the foregoing, applicants respectfully submit that the present application is in condition for allowance. Favorable action is requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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